



Bristow Helicopters Limited and Marconi Avionics (Data Systems Group)

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Bristow/Marconi iHUMS

- **The iHUM System**
- **Present use of iHUMS**
- **Collecting and Analysing Data**
- **Contribution to “Bottom Line”**



The Exceedance Element

- **Automatic Alert**
- **Accurate Recording**
- **Collection and Analysis**
- **“Bottom Line” Payback**



The Vibration Element

- **Automatic Alert for Transmission, Engines and Rotor Track and Balance**
- **Accurate Recording**
- **Collection and Analysis**
- **“Bottom Line” Payback**



The FDR Element

- **Automatic Alert for Adverse Trends**
- **Accurate Recording - minimum pilot input**
- **Collection and Analysis**
- **“Bottom Line” Payback**



iHUMS and GAIN

- **The iHUMS Database**
- **Possibility of Sharing Data**
- **Could GAIN be the Vehicle ?**
- **Savings and Safety**



Marconi Involvement



Marconi Involvement

- **Design Authority for IHUM System**
- **Flight Data Acquisition Systems for**
 - Concorde, Boeing 747, Boeing 737
 - BAe 146, Dash-8
 - C-130, C-141...
- **Engine Monitoring Systems for**
 - Dash-8, AV8-B Harrier, Eurofighter...



Problem Definition

- **Need to Transfer Data from Aircraft to Groundstation**
- **Cannot Use Maintainer Effort**
- **Must be Simple to Use**



Solution

- **Pilot Carries a Data Card**
- **Placed in Card Reader Before Flight**
- **Taken out Post Flight**
- **Contains**
 - **Configuration Data**
 - **QAR Data**
 - **HUM Data**



Card Quick Access Recorder

- **Interfaces**
 - RZ QAR Interface
 - Serial Communications Interface
- **Capacity**
 - Currently up to 500 hours
- **Applicability**
 - Smaller Fixed Wing
 - Helicopters



Implementation

- **CQAR to be Used on Bristow HOMP Trial**
- **Integrated Groundstation in Development**
 - Read Data from Card
 - Interface to HUM System
 - Interface to Operational Monitoring System
 - Interface to Operations System



Card Quick Access Recorder





Impact on “Bottom Line”

- **Bristow are Enthusiastic Supporters of Aircraft Monitoring**
 - HUM Safety Benefits Established (CAA proven)
 - FOQA Safety Benefits Targeted
- **Safe Operations Save Money**
- **HUM and FOQA Can Provide Pay-Back if Implemented Correctly**